

1 Physical map of the continents (I). Asia

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Asia is the **Earth's largest continent**. Its 43608000 km² represent 29.13% of the surface of the Earth.

The Asian continent is **located** between the Glacial Arctic, Pacific and Indian Oceans. It is separated from Africa by the Red Sea and the Sinai Peninsula; from Europe, by the Ural Mountains, the Caspian Sea, the Caucasus Mountains and the Black Sea; and from America, by the Bering Strait.

1.1 The continental terrain

- The **terrain** includes plains and depressions, plateaus and mountains. The **plains** are crossed by long rivers carrying a high volume of water. The main plains are the Siberian, Indochina and Indian plains. The **depressions** are filled by seas such as the Aral, Caspian and Dead seas. There are a great number of **plateaus**, which are to be found in the central and peripheral regions of the continent. The most important are the Anatolian, Iranian, Tibetan, Siberian, Deccan and Arabian plateaus. The **mountains** are young mountains. Of special note are the Zagros Mountains and the Himalayas.
- The most important **islands** are Sri Lanka and the **archipelagos** of Japan, Philippines and Indonesia.
- The Asian **coasts** are broken up by **peninsulas** (Kamchatka, Korean, Indochinese, Malay, Deccan, Arabian and Anatolian) and **gulfs** (Persian, Bay of Bengal, Thailand and Tonkin).

1.2 Seas, lakes and rivers

The main **seas** in Asia are the Sea of Japan, the Sea of Okhotsk, and the Kara, Bering, China, Arabian and Red seas.

There are both saltwater **lakes**, such as the Aral, Dead and Caspian seas (the latter is the largest lake in the world and covers 371000 km²), and freshwater lakes, such as Lake Baikal (with a depth of 1741 m, it is the deepest lake on Earth).

Asian **rivers** are long and carry a high volume of water. The most important rivers are the Yangtze, the longest river of the continent (5800 km), the Ob, the Yenisei, the Lena, the Huang He, the Mekong, the Amur, the Ganges and the Indus.

Skills progress

Understanding space

- 1 What geographical elements separate Asia from Europe, Africa and America?
- 2 On a blank physical map of Asia, mark the main types of terrain of the continent, along with the seas and rivers mentioned in the text.

- 3 Using the scale of the map, calculate the distance between the peaks of Mount Everest and Mount Fuji.

Interpreting a graph

- 4 Comment on the forms of terrain shown in the topographic profile. First, consult the Techniques section at the end of the unit.

Basic data

Average altitude:
950 m

Highest peak on Earth: Mount Everest (8847 m)

Longest river:
River Yangtze (5800 m)

Main lake: Caspian Sea (371000 km²)

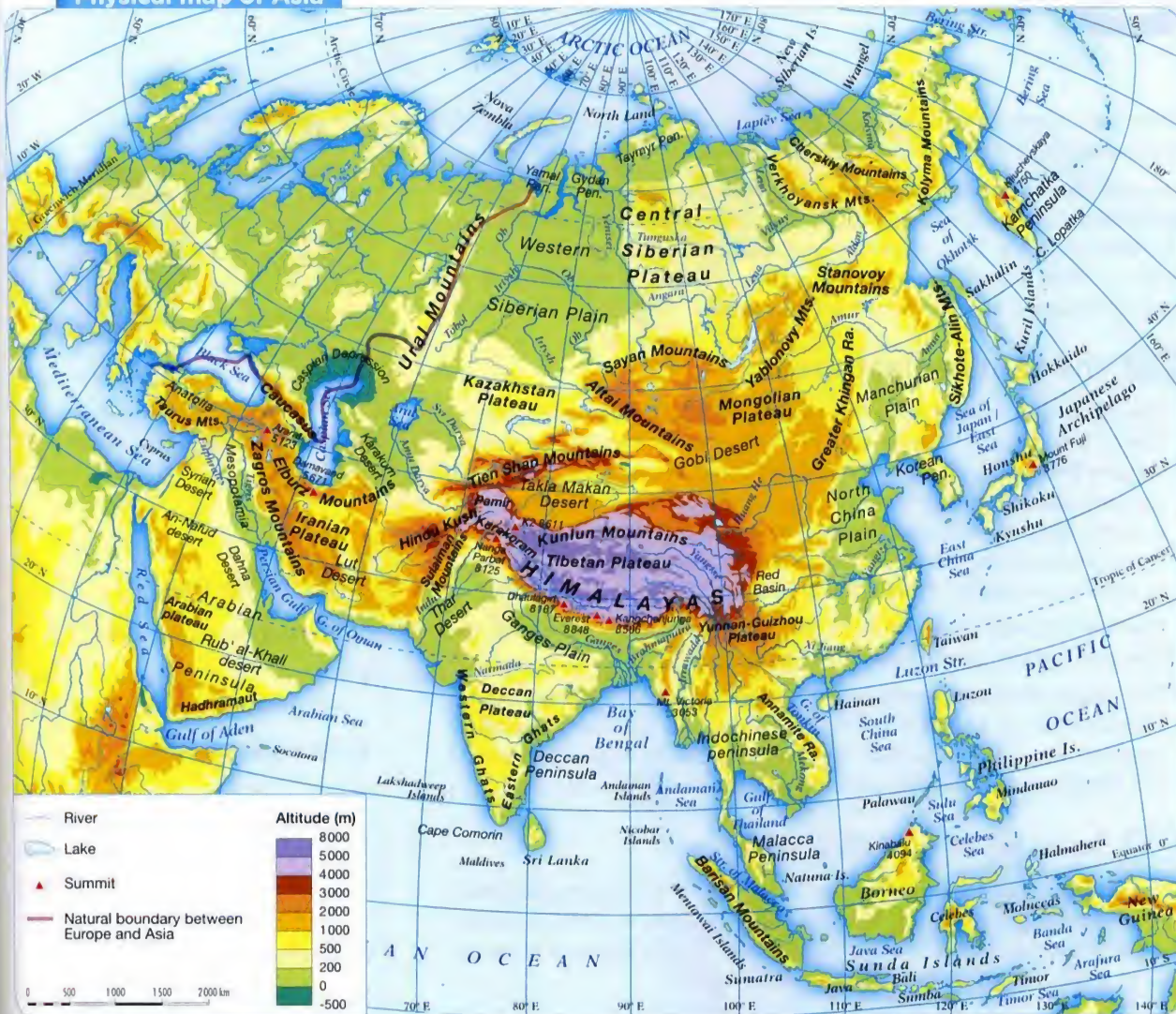


Mount Everest

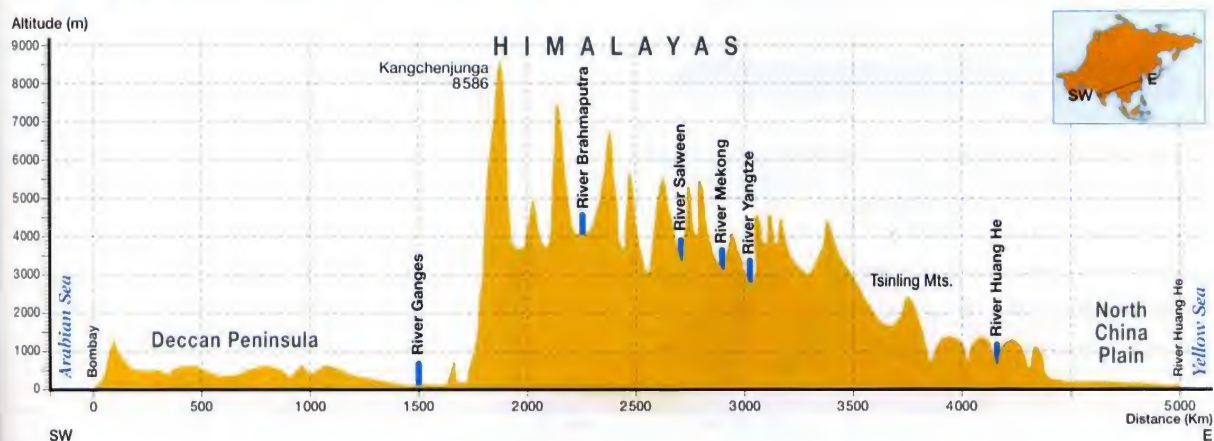
FOCUS on English

The word **sea** can be written with an initial capital letter when is part of the name of a particular sea, for example, Caspian Sea. When it is written with a lower-case s, it is a noun.

Physical map of Asia



SW-E profile of the terrain of Asia



2

Physical map of the continents (II). America

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After Asia, America is the second largest continent. Its 42 960 000 km² represent 28.70 % of the surface of the Earth.

The American continent **is located** between the Glacial Arctic, Glacial Antarctic, Atlantic and Pacific Oceans. It is separated from Asia by the Bering Strait. It is often divided into two subcontinents, North America and South America, which are linked by the isthmus of Central America and the Antilles archipelago.

2.1 The continental terrain

- The American terrain runs from north to south. **Plains** (the Great Plains, the Amazon Plains and the Pampas) dominate the central regions and major rivers flow through them. **Massifs**, or old eroded terrains, predominate in the east: the Canadian Shield, Guiana Shield and the Appalachian Mountains. The **mountain ranges** (the Rocky Mountains and the Andes) form an almost continual line from north to south, running for more than 12 000 km.
- The main **islands** are Greenland, Victoria, Baffin, Newfoundland, the Aleutian Islands, the Antilles and Tierra del Fuego.
- The **coasts of North America** are broken up by **peninsulas** (Alaska, Labrador, Nova Scotia, Florida, California and Yucatán) and **gulfs** (Hudson Bay and the Gulf of Mexico). The **coasts of South America** are straighter, but they have many **capess** (São Roque, Horn).

2.2 Seas, lakes and rivers

The two main **seas** are the Labrador Sea in the north and the Caribbean in the centre. There are a greater number of **lakes** in North America, such as the Great Lakes (Superior, Michigan, Huron, Erie and Ontario); and in South America (Maracaibo and Titicaca).

American **rivers** are long and carry a high volume of water. In **North America**, the Yukon, Mackenzie, St. Lawrence, Mississippi, Missouri and Rio Grande are the most significant rivers. In **South America**, the Orinoco, the Paraná and, above all, the Amazon.

Basic data

Average altitude:
655 m

Highest peak:
Aconcagua
(6 960 m)

Longest river of
the continent and
with highest discharge on Earth:
Amazon (6 280 km)

Main lake: Lake Superior (84 131 km²)



Skills progress

Understanding space

- 1 Which geographical element separates America from Asia?

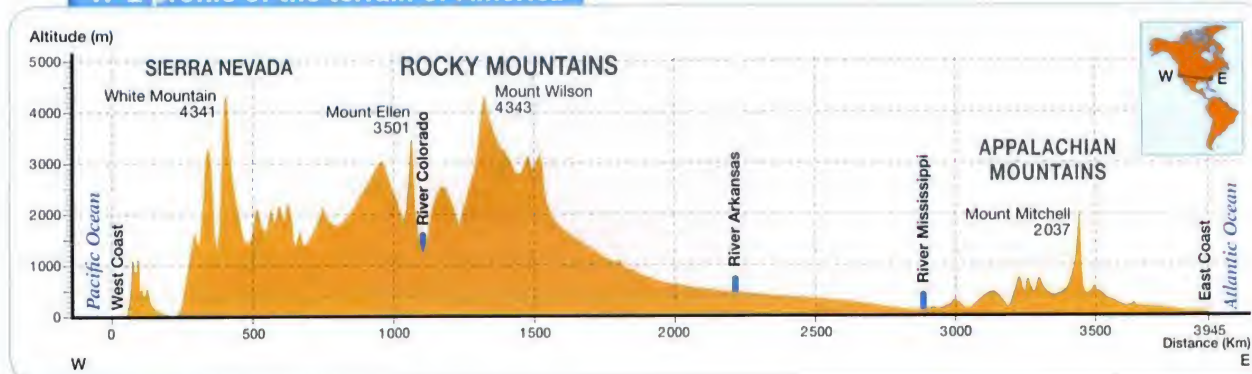
Working with maps

- 2 On a blank physical map of America, mark the main types of terrain of the continent, along with the seas and rivers mentioned in the text.

Interpreting a graph

- 3 List the four highest peaks in America. Which mountain ranges are they part of, and in which country are they located?

W-E profile of the terrain of America



Physical map of America



3 Physical map of the continents (III). Africa

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In terms of its **area**, Africa is the third largest continent. Its 30 335 000 km² represent 20.26% of the surface of the Earth.

It is **located** between the Mediterranean Sea, Asia, the Indian Ocean and the Atlantic Ocean. It is separated from Europe by the Strait of Gibraltar, and from Asia by the Suez Canal and the Red Sea.

3.1 The continental terrain

- The African **terrain**, which is marked by a number of mountain ranges, encompasses many forms. There are only few, small areas of **plains**: Libya, Tunisia, Senegal, Gambia, Mozambique, Ethiopia, etc. Plateaus make up more than 50% of the territory; there are a number of low-lying and isolated massifs on these plateaus, such as the Ahaggar, Tibesti and Marra Mountains. The **depressions** are sunken areas of terrain located in the plateau regions (Sahara, Niger, Chad and Congo). **Grabens** are characteristic of East Africa, such as the Rift Valley, and they are filled with lakes. There are few **mountain ranges**; such as the Atlas and Drakensberg Mountains.
- The most important **island** is Madagascar.
- The **coasts** have **peninsulas** (Somalia), **gulfs** (Gabes, Guinea and Benguela) and **capes** (Good Hope, Agulhas and Guardafui).

3.2 Seas, lakes and rivers

Africa has few **seas**, due to its coast not being broken up by continental coastal features. The main seas are the Mediterranean and Red seas. There are many **lakes**, which are located in basins (Victoria, Chad) or in fractures in the terrain (Albert, Tanganyika and Malawi).

African **rivers** are in some cases very long and carry a high volume of water, such as the Nile, which is the longest river in the world with a length of 6670 km, the Niger, the Congo, the Zambezi and Orange rivers. Other rivers, such as the coastal rivers, are shorter, and there are also wadis, or desert rivers, which are dry for most of the year.

Basic data

Average altitude: 750 m

Highest peak: Mount Kilimanjaro (5895 m)

Longest river on Earth: Nile (6670 km)

Largest desert on Earth: Sahara (9 400 000 km²)

Main lake: Lake Victoria (68100 km²)



The **Rift Valley** or Great Rift Valley is an extensive fracture in the terrain which includes dormant volcanoes such as Mount Kilimanjaro and Mount Kenya. This type of terrain is characteristic of East Africa.

Skills progress

Understanding space

- 1 What geographical elements separate Africa from Europe and Asia?
- 2 On a blank physical map of Africa, mark the main types of terrain of the continent, along with the seas and rivers mentioned in the text.

Developing entrepreneurship

- 3 Plan a photographic safari between Cape Verde and Kilimanjaro. Calculate the distance between

both locations and list the types of relief you would see.

Working with maps

- 4 List the five highest peaks. Which mountain ranges are they part of, and in which country are they located?

Interpreting a graph

- 5 Study the profile and answer: a) In which direction is the continent orientated? b) What mountainous terrains mark the boundaries of the plain regions?

This physical map of Africa displays the continent's diverse topography. The color-coded altitude scale ranges from -200m (dark green) to 4000m (dark red). Key features include the Atlas Mountains in the northwest, the vast Sahelian and Saharan regions, the Ethiopian Highlands in the east, and the Great Rift Valley running through the center. Major rivers like the Nile, Niger, Congo, and Orange are shown, along with significant lakes such as Lake Chad and Lake Victoria. The map also highlights the Mediterranean Sea, Red Sea, Indian Ocean, and the Gulf of Guinea. A legend in the bottom left corner defines symbols for rivers, lakes, waterfalls, and summits. A scale bar in the bottom right corner indicates distances up to 2000 km.

Altitude (m)

5000

4000

3000

2000

1000

0

ATLAS

Rabat

River Moulouya

SAHARA

AHAGGAR MOUNTAINS

Tahat 3003

CHAD BASIN

River Mboma

River Uele

River Aruwimi

River Lindi

RIFT VALLEY

Mitumba Mountains

River Great Ruaha

River Ruvuma

Coast of Mozambique

Indian Ocean

Distance (Km)

0

500

1000

1500

2000

2500

3000

3500

4000

4500

5000

5500

6000

6500

7000

7260

NW

SE

4

Physical map of the continents (IV). Europe

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4.1 Characteristics, location and limits

In terms of its **area**, Europe is the fifth largest continent on Earth. Its 10 498 000 km² represent just 7.01% of the Earth's surface.

The European continent is **located** between the Glacial Arctic and Atlantic oceans and the continents of Asia and Africa.

It is separated from Asia by the Ural Mountains, the Caspian Sea, the Caucasus Mountains and the Black Sea; and from Africa by the Mediterranean Sea and the Straits of Gibraltar.

4.2 The types of terrain

Europe has a varied terrain, which has three **basic types**:

- **Plains** which are located in the centre of the continent, and are dominated by the Great European Plain. This triangular shaped terrain runs from the Atlantic coast to the Ural Mountains.

- **Plateaus and ancient massifs** are located, particularly, in the north and centre of the continent.

The best known are the plateaus of Finland and Sweden; and the massifs of the Scandinavian Mountains, the Vosges mountains, the Massif Central in France, and the Jura and Ural Mountains.

- The **young mountain ranges** predominate in the south. The most significant ones are the Pyrenees, Alps, Apennines, Dinaric Alps, Carpathians and the Caucasus Mountains. The latter mountain range is home to Europe's highest peak, Mount Elbrus at 5642 m.

4.3 Europe's coasts

Europe's coasts are very uneven in form and have numerous **capess** (North Cape, Finisterre, Cape St. Vincent), **gulfs** (Gulf of Finland, Gulf of Bothnia, Bay of Biscay, Gulf of Lion and the Gulf of Genoa) and **peninsulas** (The Jutland, Iberian, Italian and Balkan peninsulas).

Numerous **islands** (Iceland, Ireland, Great Britain, etc.) also form part of the continent along with various **archipelagos**, such as Madeira and the Balearic and Canary Islands.

Physical map of Europe



Skills progress

Understanding space

- 1 What geographical elements separate Europe from Asia and Africa?
- 2 On a blank physical map of Europe mark the types of terrain mentioned in the text along with the main coastal features and islands.
- 3 Using the map's scale calculate the distance between Mulhacén and Mount Elbrus.
- 4 Study the political map of Europe and state where the Alps, Pyrenees and Urals are located.

Working with maps

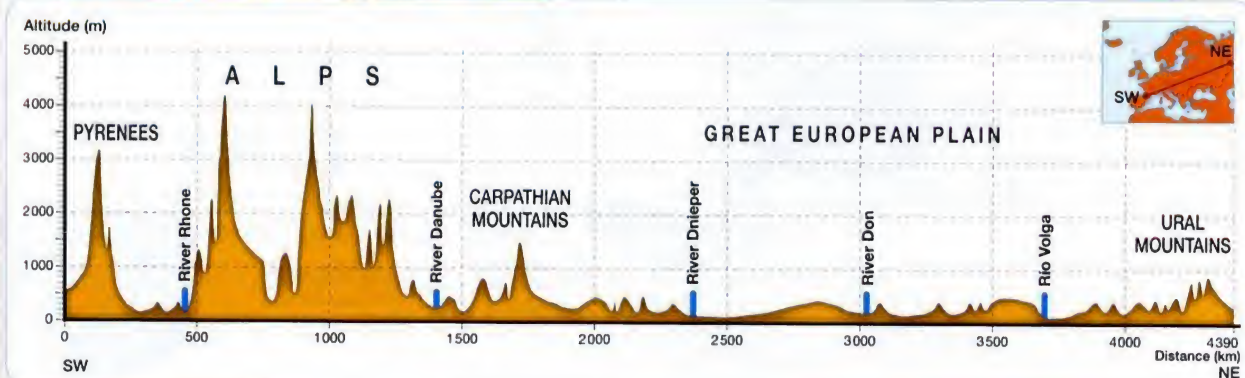
- 5 How are the different altitudes of a terrain represented?
- 6 State the geographical coordinates of Europe.

Working with graphs

- 7 Use the topographical profile and answer:
 - a) In what direction is it oriented?
 - b) What is the approximate altitude of the highest peaks? Which mountain range do they belong to?
 - c) What is the altitude of the low-lying zones?



SW-NE profile of European terrain



5 Physical map of the continents (V). Antarctica and Oceania

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5.1 Antarctica. The continental terrain

Covering 13 340 000 km², Antarctica is the **fourth largest** continent on Earth.

It is located in the southern hemisphere and is surrounded by the Southern Ocean, which forms a boundary between the Pacific and Indian Oceans.

- Its **terrain** is made up of mountains, numerous volcanoes and high plateaus. The highest peak is Vinson Massif (4 897 m), which is in the Ellsworth Mountains.

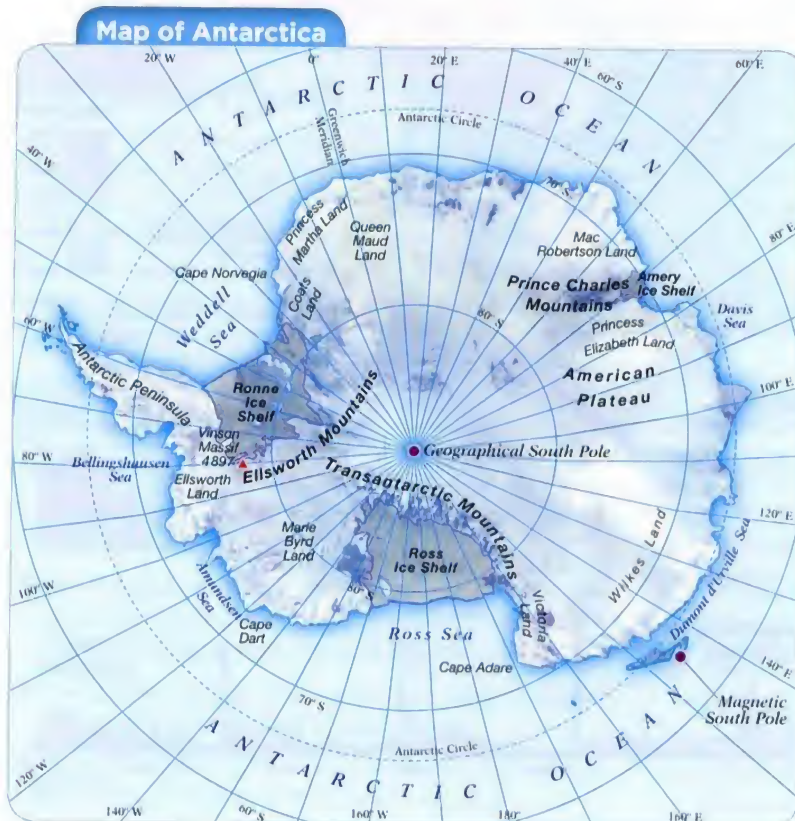
It is the continent with the highest average altitude of almost 2 600 metres.

- The **coasts** are broken up by many features, and of special note is the Antarctic Peninsula and the Adare and Norway capes.

5.2 Ice and seas

The most important seas in Antarctica are the Weddell and Ross seas.

Almost all the continent is covered by a mass of ice, which can reach a thickness of 2 000 metres.



FOCUS on English

The word **Antarctica** comes from the ancient Greek and Latin. The prefix *ant-* is a variant spelling of the prefix *anti-* and means opposed to, against. Therefore, Antarctica means opposite the Arctic.

Skills progress

Working with maps

- 1 In which oceans are Antarctica and Oceania located?
- 2 What could be the cause for Antarctica's high average altitude?

Understanding space

- 3 Why are there no rivers in Antarctica?

Planning your work

- 4 Plan a study on one of the following topics, and give a presentation about it in class:
 - a) Australia's Great Barrier Reef.
 - b) The exploration of Antarctica.
- 5 What differences are there between the coasts of Antarctica and Oceania?

Basic data

Average altitude:
just under 2 600 m

Highest peak:
Vinson Massif
(4 897 m)



Physical map of Oceania



5.3 Oceania. The continental terrain

Oceania is the continent with the smallest surface area on the Earth; it covers 8 923 000 km². It is **located** in the Pacific Ocean and consists of large islands (Australia and the North and South Islands of New Zealand), and three archipelagos: Melanesia (which contains New Guinea), Micronesia and Polynesia.

► Australia

- The **Australian terrain** is the best known of Oceania. It has a huge plain; a plateau which includes the MacDonnell and Hamersley Ranges and the Great Dividing Range.
- The **Australian coast** is fairly straight. Its main features are the Cape York Peninsula, the Gulf of Carpentaria and the Great Australian Bight.

► The other islands

- The **terrain** of the other islands is mountainous, due to their volcanic origins, although some were formed from coral reefs.

5.4 Oceania. Sea, lakes and rivers

In **Oceania**, the most important **sea** is the Tasman Sea.

Australia has the largest **lake of the continent**, Lake Eyre, and the longest **rivers**, such as the Darling, the longest of the continent, which measures 2700 km, and the Murray.

Basic data

Average altitude:

340 m

Highest peak:

Puncak Jaya
(5030 m)

Longest river:

Murray-Darling
(3750 km)



Skills progress

Working with maps

6 On a blank physical map of Oceania, mark the main types of terrain of the continent, along with the seas, lakes and rivers mentioned in the text.

7 Into which ocean do the main Australian rivers flow?